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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10:074,003	02/14/2002	Warren Stuart Crippen	2207/12663	6656

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KENYON & KENYON
1500 K STREET, N.W., SUITE 700
WASHINGTON, DC 20005

EXAMINER

PATEL, ISHWARBHAI B

ART UNIT PAPER NUMBER

2827

DATE MAILED: 08/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/074,003	CRIPPEN, WARREN STUART	
	Examiner	Art Unit	
	Ishwar (I. B.) Patel	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 27 May 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The corrected or substitute drawings were received on May 27, 2003. These drawings are approved.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 10-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Van Pham et al., US Patent No. 6,303,992, hereafter Van.

Regarding claim 10, Van discloses a space transformer comprising:

a silicon medium (interposer body 12 made of ceramic material such a silicon, see figure 4, column 3, line 40-45; and

a predetermined contact pattern comprising electrically conductive material disposed in an inner region of the substrate and defining electrical contact zones located to provide double sided electrical contacts for the space transformer (contact pads 18 and 20 with conductive conduits 22, see figure 4, column 3, line 1-8).

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Regarding claim 11, the body of Van further discloses a first and second silicon layer with contact pattern being disposed between the first silicon layer and second silicon layer, see figure 4 and 8A-B, column 4, line 60 to column 5, line 5.

Regarding claim 12, the body of Van further discloses the via with electrically conductive material into the via (see figure 4, column 4, line 1-5).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Pham et al., US Patent No. 6,303,992, hereafter Van, as applied to claims 10-12 above, and further in view of Petrarca et al., US Patent No. 6,429,522, hereafter, Petrarca.

Regarding claim 13, the applicant is claiming an adhesion promoter disposed between the electrically conductive material and the first silicon layer.

Though, Van is not disclosing such adhesion promotion layer, as disclosed by Petrarca, it is known in the art to apply an adhesion promotion layer such as silicon oxide, silicon nitride, titanium, tungsten or related compound before a metal deposition. The adhesion promotion layer is often used as a barrier for metal migration.

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Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the structure of Van with adhesion promotion layer, as taught by Petrarca, apparently in order to have better adhesion of the metal to the silicon substrate.

Regarding claims 14 and 16, the modified structure of Van further discloses all the features of the claimed invention including the adhesion promotion layer as applied to claims 10-13 above.

Regarding claims 16 and 17, the modified structure of Van further discloses all the features of the claimed invention including the contact pattern comprising electrically conductive material as applied to claims 10-13 above.

Response to Arguments

6. Applicant's arguments filed on May 27, 2003 have been fully considered but they are not persuasive.

Applicants arguments:

Applied prior art of Van does not disclose or remotely suggest a space transformer:

This is a structural claim. The structure of Van discloses the structure as claimed, though it may have different function or use.

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Further, the structure disclosed by Van is a substrate and such substrate, as disclosed by Beaman et al., US Patent No. 5,635,846, can be used as space transformer.

Furthermore, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 1647 (1987).

Secondary reference of Petrarca was used for showing an adhesive promotion layer only.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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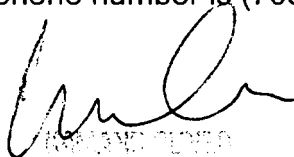
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lu et al., discloses the use of an adhesion promotion layer 96, column 8, line 39-42.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (703) 305 2617. The examiner can normally be reached on M-F (8:30 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Talbott can be reached on (703) 305 9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3431 for regular communications and (703) 305 7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.



SUPERVISOR/EXAMINER
TECHNICAL STAFF 12300

ibp
August 1, 2003